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ABSTRACT

This paper reviews research that has been done in Australia on teacher education in the past decade. It presents some perspectives on the potential of that research to inform practice and to improve the process of teacher education. The research projects studied included preservice education, the induction of beginning teachers, and the professional development of experienced teachers through inservice education. The research methodology of the studies was empirical: personal observations, case studies, surveys, experiments, and action research. The reports are clustered under headings that describe the major theme addressed by the project: (1) perceptions of teaching as a career; (2) characteristics of teacher trainees; (3) the nature and impact of preservice programs; (4) skill and other components in preservice teacher education; (5) school experience--the supervisor and the practicum; (6) beginning teachers--provisions, concerns and attitudes; and (7) needs and provisions for inservice education. The type of research used in each project is described, and summaries of salient findings are presented. Over 100 references are included. (JD)

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A DECADE OF RESEARCH ON TEACHER EDUCATION IN AUSTRALIA

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A DECADE OF RESEARCH ON TEACHER EDUCATION IN AUSTRALIA

by

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Although teacher education in Australia has experienced difficulties during the last decade, such as reduced funding for pre-service and in-service programs and reductions in the number of persons undertaking courses, they do not appear to be of the same magnitude as those occurring in the United States. There are still positive features. The total number of teachers in the work force is increasing (but not at the rate of a decade ago) and top quality students compete for places in pre-service programs, for example, for programs preparing secondary teachers of Art and Crafts, Physical Education and Home Economics. Although teacher educators complain about the abilities of their students (as do other tertiary teachers), it must be borne in mind that those entering pre-service programs are either drawn from a proportion of students who complete Year 12 of secondary school or have been awarded a bachelors degree. With respect to the Year 12; only 50 percent of an age cohort enter this year; approximately 80 percent of these pass the formal assessments at the end; about 70 percent of those passing qualify to enter tertiary education at a College of Advanced Education or in a University. Australia's new teachers are among these.

The majority of primary, Art and Craft, Home Economics and Physical Education teachers gain their pre-service qualifications in the Colleges of Advanced Education. There is also a proportion of persons who qualify for the subject oriented science, economics, language and humanities courses in the universities. They obtain the relevant Bachelor's degree after three years of specialized study and then seek entry to a one-year postgraduate Diploma in Education which concentrates on pedagogical studies. All programs have quotas on enrolments, but, no matter which pre-service track a teacher takes,

the individual will have been exposed to a general education component, some subject specialities and pedagogical studies. The nature of these varies from institution to institution.

Continuing, or in-service education activities are also numerous and diverse- although not as numerous and diverse as some would wish. But they, together with all the pre-service programs add to the complexity of teacher education in the country. Seven years ago Australian teacher education was placed under the microscope when national and state governments set up committees to inquire into its nature. They used several sources of knowledge about teacher education, including research about it. Unfortunately limited use was made of that source, probably because there was then no careful summary of the research that had been done. Some individuals suggested that it might also have been the case that the research consulted by the committees had no potential to inform practice.

This paper sets out the results of a quest to discover what research had been done on teacher education in Australia during the last decade and to present some perspectives about the potential of that research to inform practice and to enliven the process of teacher education. It was clear that teacher education was a complex enterprise resulting, not only from its diversity of programs, but from the variety of people involved in it, the range of social, political and educational ideas associated with it, and the processes used to help teachers operate effectively in classrooms and reflect on their own teaching.

When the quest began it was necessary to set several parameters. The first was to specify what was to be included within the term teacher education. It was taken to embrace pre-service education, the induction of beginning teachers and the professional development of experienced teachers through, for example, in-service education. The

induction of experienced teachers into new roles such as departmental head or school principal was excluded, not that it is unimportant, but because it was conjectured there was not much research on the issue in Australia. The second parameter related to the meaning to be attached to research. Now, Lanier and Little (1986) and others suggest that a variety of research procedures are needed to study teacher education: adherence to classical natural science modes of inquiry will not advance our knowledge extensively. In this quest any empirical investigations about teacher education were deemed to belong to research on the topic. That is, personal observations, case studies, surveys, experiments and action research were classed as empirical investigations. This limited definition meant that philosophical analyses, position papers and national reports about teacher education were excluded from the review.

As there were no previous extensive reviews of research on teacher education in Australia the first aim of the quest was to gain as much information as possible about the products (findings) of the Australian research. It was hoped that somethings would emerge about the process of teacher education as it unfolds over time. It was not intended to document the chronic problems associated with teacher education as done by Lanier and Little (1986) for teacher education in the U.S.A. Nor were the classifications, or commonplaces (Lanier & Little 1986) about which the findings were to be organised determined before the review began. The classifications which follow later were those considered to be the dominant themes in the research.

In order to assess the strengths and limitations of the research and comment on future directions that might be taken, it was also necessary to pay attention to the ways in which projects had been conducted. This process approach focussed upon the conduct of the research including its methodologies and underpinnings. Details of the processes and the products were obtained from a variety of sources;

for example, from journals (e.g., Australian Journal of Education, South Pacific Journal of Teacher Education, Australian Journal of Teaching Practice), Australian Government Publishing Service reports and a number of 'in-house' reports provided by colleges and state departments of education. Several higher degree theses in colleges and university libraries, articles in teachers' associations' journals, and a range of papers in the proceedings of some annual national conferences (e.g., Australian Association for Research in Education, South Pacific Association of Teacher Education) were also reviewed. About 210 articles and reports were consulted, 160 were summarized and catalogued and 110 of these appear in the reference list at the end of this chapter. They constitute a representative sample indicative of the nature of the research on teacher education in Australia.

For convenience of discussion the reports have been clustered under headings which describe the major theme addressed by projects. These major headings are:

1. Perceptions of teaching as a career
2. Characteristics of teacher trainees
3. The nature & impact of pre-service programs
4. Skill (& other) components in pre-service education
5. School experience: the supervisor & the practicum
6. Beginning teachers: provisions, concerns & attitudes, and
7. Needs and provisions for in-service education

Investigators have used a variety of procedures to gather information about the aspects listed above. These include personal observations, detailed case studies, interviews, questionnaire surveys, action research and some experimentation. Surveys predominate, and in the majority of instances in pre-service education were conducted on samples drawn from the investigator's own institution. However, a few pre-service studies involved samples drawn from two or more teacher training institutions, and one involved institutions and programs in

two states. National studies, or longitudinal ones spanning more than two years are rare and the two (one of each type) that were located dealt with Australia's beginning teachers. By and large the duration of most investigations was short although a number of in-service projects, in contrast to pre-service ones, occupied a whole year.

1. Perceptions of teaching as a career

A complex variety of factors can affect a person's choice of teaching as several surveys have shown. Students in a college pre-service program for instance, indicated that either their interest in the profession, or their desire for security and recognition or their teachers influenced their decision to enter the profession (Carpenter & Foster, 1979). Some indicated that they entered by default. It would be interesting to know whether these had viewed teaching positively or negatively when they were Year 12 students as it seems that almost one third of that population has negative perceptions about teaching, that is, if a Western Australian study (Ryan & Reynolds,1982) is indicative of what Australia's Year 12 students think. The negative perceptions include poor employment and promotion prospects, limited prestige, limited income and excessive after hours work. It is interesting to note that a proportion of the Western Australian Year 12 students who perceived the profession in a positive light (e.g., with good working hours, opportunities for further education and job satisfaction) also conceded it was demanding and had poor prospects for promotion. These perceptions may be derived from watching teachers at their job and listening to them talk. Certainly there appears to be a bias among teachers to advise pupils, especially the able ones, against teaching as a career (Ryan & Reynolds, 1982) and particularly if they are considering teaching at the primary and early childhood levels.

The fact that a variety of things affect a person's choice of teaching as a career may also be taken to indicate that the

characteristics of those in pre-service programs are diverse. A number of studies provide information about some of these characteristics as the next section shows.

2. Characteristics of teacher trainees

The studies dealing with the characteristics of trainee teachers vary in their attention to detail and in the precision with which the authors express their findings. They include a number of cross-sectional surveys on such characteristics as moral reasoning (Wilkins, 1980), value systems (Boyce, 1977), reasoning patterns(Garnett & Tobin, 1984; Tobin & Garnett, 1984), ascribing attributes to pupils (Eltis, 1982), teaching skills (Hawkins & Sager, 1977), and perceptions of pupils (Diamond, 1983). Several studies (about 50% of those dealing with trainees' characteristics) were of a pre-, post-test design spanning either one year of a training program or the final year of training and the first year of teaching. They include studies of trainees' perceptions of the teacher's role (Dymond, 1976), control ideology (MacArthur, 1975), and self-perceived needs(Gunstone & Mackay, 1975). Three of the pre-, post-test projects, one dealing with commitment to teaching (Elsworth & Coulter, 1978) and two with attitudes (Hogben & Petty, 1979; Hogben & Lawson, 1984) used the Semantic Differential technique and two others contained an intervention between the pre- and post-testings. In one of these (Westwood, 1984) the intervention consisted of a short introductory special education unit and in the other (Diamond, 1985) it was periods of interaction between researcher and trainees during which the trainees reviewed their own constructs of self, teacher and pupils. The nature of their constructs was elicited using Kelly's (1955) Repertory Grid technique and a valuable feature of the interventions was the demand placed on trainees to interpret their own perceptions. The procedure appears to be an extremely useful one which could be used with profit to enhance teachers' understandings of their perceptions of pupils and of themselves as teachers.

INSERT BOXES 1 & 2 ABOUT HERE

Most of the salient findings from the preceding studies are summarized in Boxes 1 and 2 using phrases which are comparable to those used by the authors in their research reports. Various interpretations and implications can be drawn from the array but only three additional comments will be made here. First, the findings that trainees develop pessimistic views about pupils (Box 2, No.3) and less favourable attitudes to teaching (Box 1, No.5) during their training imply that certain pre-service programs, and especially their school experience components, require a major overhaul. Secondly, the findings about trainees' levels of moral reasoning (Box 1, No.2) imply, according to the researchers, that many pre-service teachers would be incapable of understanding the moral reasoning of at least some of their pupils and of providing them with "plus one" exemplars in moral education discussions. This constitutes a challenge to teacher educators to enhance trainees' moral reasoning capabilities. Finally, it is appropriate to note that although trainees develop a pessimistic view of pupils it is not the case that all experienced teachers share their perspectives. Some perceive pupils as being willing to help, patient and kind and believe they should be interested in, patient and helpful towards pupils. Perhaps, as Diamond (1983) suggests, these features should be developed in teacher education programs through role play.

3. The nature and impact of pre-service programs

In the mid-seventies a detailed, collaborative survey of three-year primary teacher education programs in New South Wales and Queensland was completed (Campbell et al, 1979). The project, sponsored by the Commission on Advanced Education, set out to determine the nature of the programs and the reactions of students and ex-students to them. Data were gathered from a wide range of professional persons involved in primary education, and the research team documented what were the ideal and actual emphases in the programs, the educational

values held by lecturers, supervising teachers and ex-students, and the nature of students' participations. The researchers, who regarded the study as exploratory, and the findings tentative, suggested that the graduates from the training programs were most competent in industrially-oriented skills, that is in the transmission of knowledge, in guarding standards in learning and behaviour, and in guaranteeing credentials. On the other hand, the graduates were least competent in humanistically-oriented skills, that is, those of a well-developed, sensitive and perceptive individual (teacher) who, "within close empathic relationships, selects ways of teaching which match the unique characteristics and learning orientations of each pupil" (p.169).

The Education Research and Development Committee, in the mid-seventies, also sponsored projects on teacher education. These included ones on alternate micro-teaching formats, school-based pre-service programs, training of supervising teachers, and competency based teacher education. Summaries of the projects are collated in an ERDC report edited by Hewitson (1979). Since the mid-seventies there have been further reports about school-based programs(Baldie & Barnes,1981) how courses train teachers to plan (Deschamp & Tripp, 1980), students' and ex-students' reactions to their pre-service education (Hewitson, 1981); Reed, 1986; Telfer, 1982; Tisher, Fyfield & Taylor, 1979; and Young, 1979), and the feelings of confidence primary trainees(Symington, 1982) and Diploma in Education students (Beasley, 1981) gain in their program. Other changes have also been documented. In one longitudinal study Appleton (1983, 1984) surveyed primary trainees at the beginning and end of their first year to discover what preferences they had developed for various primary science teaching strategies. In another longitudinal survey Dooley and Lucas (1981) documented the attitudinal changes which occurred to science and science teaching in first and second year trainees when they were exposed to a content based science course and a unit dealing with curriculum.

A detailed, labour-intensive action research project dealing with the development and impact of a science course for primary trainees has been reported by Walsh et al (1984) and Walsh and Lynch (1985). The course, which was incorporated into a teacher education program, was an adaptation of an Open University one characterised by home experiments, projects and tutorials. It appeared to be very successful since trainees' understandings in and liking for science were enhanced.

INSERT BOXES 3 & 4 ABOUT HERE

Findings from the research on the nature and the impact of pre-service programs are summarised in Boxes 3 and 4. They indicate that programs can have positive effects in modifying trainees' assessments of their knowledge of curriculum teaching skills and attitude, that wide differences occur between institutions in the ways they teach trainees to plan, and that school-based programs provide more peer support and opportunities for discussion than other courses. Ex-students believe that programs could do more to develop professional attitudes and classroom skills, and that the quality of methods courses could be improved.

Implications can be drawn from these and the other findings, but must be done cautiously since the information about the impact of programs has not been derived from detailed and extensive evaluations of them. In fact it appears that institutions rarely engage in detailed, well conceived evaluations of their teacher education efforts One exception is the evaluation by Melbourne College of Advanced Education of its Diploma in Education. Details of that project appear in six institutional reports and a recent conference paper (Owens, Wyn & Senyard, 1983). The evaluation team, which reported on four modes of conducting the Dip. Ed., noted that ex-students considered that there were discrepancies between what was important to them in their current teaching positions and emphases in the course. The largest

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discrepancies occurred with respect to catering for individual differences, classroom management, self-evaluation, and translating curriculum plans into action. Their findings also indicated that the school-based mode of conducting the Dip. Ed. appeared to yield greater benefits than the other three modes, which were ones constructed through (a) contracts between staff and students, (b) selection, by students, from a wide choice of options and (c) a set core of studies plus some selection of others. The school-based mode placed a "greater emphasis on the relationship between the school and the community, and on the broader social and political context in which schools function" (p.320).

Boxes 3 and 4 contain an interesting array of information but nothing substantive about the constructs (e.g., values, perceptions of pupils, teaching and teacher education) held by lecturers and trainees, or about how these constructs modify the effects of different modes of pre-service education. Lanier and Little (1986) also note the dearth of research on issues like these and especially on teacher educators. It is suggested that some research should now be undertaken on these matters. A recent study by Carpenter and Byde (1986) on what commitment to teaching means for graduating trainees is a step in this direction.

4. Skill (and other) components in pre-service education

By and large pre-service teachers value those course components that enhance their teaching prowess and when they review their teacher training they invariably state that more time should be given to teaching methods and techniques. Certainly this was a view expressed by 34, three-year trained diplomates during their first year of teaching science (Dawes & Ticehurst, 1978) and it is congruent with the beliefs of a majority of Australia's beginning teachers (Tisher, Fyfield & Taylor, 1979). But even though trainees, teachers and teacher educators believe that the development of teaching skills is

important there has not been an extensive amount of research on the topic. Two relatively recent projects have dealt with psycho-drama (Carroll & Howieson, 1984) and strategy analysis (Tobin, 1985; Tobin, Pike & Lacey, 1984). The reports on strategy analysis describe experimental studies involving 112 college students enrolled in science education courses. In these the pre-service teachers learnt about models appropriate for activity-oriented science and engaged in peer-teaching (i.e., behaviour modelling) which was followed by,

(a) an analysis of their teaching to note whether it corresponded to the proposed models and,

(b) feedback about teaching.

Two other studies with primary trainees focussed on their choice of alternative verbal behaviours (Symington, 1980) and materials to be used in science lessons (Symington, 1982).

The Sydney Micro Skills courses (e.g., Turney et al, 1973), especially the components dealing with reinforcement, questioning, explaining and closure, were purchased by about 80 percent of Australia's tertiary institutions, and were favourably received by the majority of the purchasers. Half of them believed the courses had a

INSERT BOX 5 ABOUT HERE

great impact in the first year of pre-service teacher education(Turney, 1980). Generally the few reports (e.g., Evans, 1980) about forms of micro-teaching describe the successes in terms of students' satisfactions with this type of skills approach, and the personal benefits derived in confidence and interpersonal relations.

Recently a classroom analysis system based on the incident, as defined by Nuthall & Lawrence (1965), has been successfully integrated with the micro-teaching technique ((Tierney, 1984) to produce changes in trainees' verbal behaviours. Studies indicate increases in proportion of complex incidents, and number of higher cognitive behaviours but not in the number of re-directing responses.

The preceding studies have employed pre-, post-test designs with varying degrees of sophistication and length of treatment. One micro-teaching project, for instance, occupied two days per week for five weeks (Evans, 1980) while the project integrating micro-teaching and incident analysis (Tierney,1984) was a time series design spanning 13 weeks. Another investigatory project of about 12 weeks duration, involving, six treatment groups and a control each containing 14 trainees, a retention test six weeks after post-testing, and a range of multivariate procedures, was an experimental evaluation of competency based teacher education (Thompson & Lewis, 1980). It was reported that a competency based treatment consisting of explicit objectives and criterion-referenced assessment, individualised instruction, insistence on mastery of each instructional unit, and school experience in controlled settings was significantly superior to the other treatments. The researchers were of the opinion that in terms of the acquisition of selected competencies of effective explanation, a competency based program is significantly more effective than a conventional teacher education program. This was especially the case with respect to verbal fluency and, planning learning hierarchies and terminal reviews.

All of the projects were successful either, in enhancing students' teaching skills during the experimental period, or in generating confidence or feelings of satisfaction about the training component. As an extension to these studies it might be interesting to learn whether the acquired skills and confidences persist during the first few years of teaching and whether the various training components have remained features of the respective pre-service programs.

5. School experience: the supervisor and the practicum

The practicum, or school experience, has an acknowledged, central place in teacher education programs. Trainees consider it the most

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important, satisfying, relevant, practical, worthwhile feature of their pre-service education. They believe they gain from it; they say it is the most realistic feature in their courses; and, they want its quantity and quality increased. Teacher educators state that, ideally, the practicum allows trainees to apply, refine and reconstruct the 'theoretical' learnings developed in method and foundation studies. It is also generally accepted that the practicum has the potential to affect trainees' management and other teaching skills and, for some supervising teachers it may well be an important, effective form of in-service education. However, despite these features, the practicum continues to present problems for teacher educators, supervising teachers and trainees. For instance, there are difficulties with respect to scheduling practice periods, obtaining supervising teachers, allocating time to the supervisory process, and providing a range of professional experiences for trainees. Also, for a proportion of trainees the practicum remains a confusing, threatening and disappointing experience. It is complex, since on the one hand it is affected by the expectations and demands of the schools, the tertiary institutions, the supervising teachers and method lecturers, and on the other, by the nature of the pupils and classroom dynamics.

Teacher educators' knowledge about the practicum seems to be shaped primarily from their personal experiences and perceptions shared with other colleagues and supervising teachers. It seems to be rare for educational theories, in particular theories about professional socialisation, professional development and acquisition of teaching skills to be used as a source of knowledge about the practicum and its effects. Likewise, it appears that teacher educators rarely refer to, use or act upon knowledge about the practicum that has been obtained through research, yet, in Australia, for example, there is a local research literature on the topic. Why is this source of knowledge so rarely used? That is one of the matters to be addressed in the final

section of this paper. It is appropriate to note that the practicum has been of concern to a number of teacher educators throughout the decade and three special national conferences (in 1975, 1980 and 1985) have been organised on the topic. For this review about 90 documents on the topic were consulted and 40 appear in the reference list. The next two sections and Boxes 6, 7 and 8 summarise the research. The first deals with the studies on the characteristics of trainees during practice teaching, trainees' teaching skills in the practicum, and their self assessments of their teaching competence during the practicum. The second reports on the investigations about supervision, supervisors and the training of supervisory teachers. Reflections on the nature of the research occur in the final sectionf of this paper.

About half (51%) of the investigatory projects on the practicum were cross-sectional surveys using questionnaire or interview techniques to collect data. About 14 percent can be described as case studies and a comparable proportion as action research projects. Only ten percent involved pre- and post-testing where data were collected at the beginning and end of a short period of time, for example, a three-week practice teaching period. Two projects were concerned with the design and validation of instruments to evaluate teaching competence. Generally the projects were of a short duration. One case study for instance dealt with a two and a half hour seminar while one of the longer action research projects spanned six weeks. In a majority of cases the investigatory subjects were persons enrolled in courses taught by the principal investigators and the majority of the studies involved students from Colleges of Advanced Education.

5.1 Research on characteristics, skills and self-assessment

With respect to the characteristics of trainees before, during and after practice teaching, research workers have examined such things

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as changes in attitudes towards "hands on" experiences for pupils (Appleton, 1981), levels of anxiety (Sinclair & Nicholl, 1981), self-perceived needs (Gunstone & Mackay, 1975), and alterations in professional self-image (Coulter, 1974). One project dealt with the impact of the practicum on trainees' socialisation into teaching (Matthews, 1980), several have examined their perceptions about the quality of the practicum (Hewitson, 1981; Love & Swain, 1980; Thursby, 1980), one, their beliefs as to whether they had learnt a great deal during school experience (Poole & Gaudry, 1974),and another on changes in their self-assessment of their knowledge of curriculum content, teaching competence and attitude to teaching (Young, 1979).

A few projects have dealt with aspects of teaching skills. In one (Fawns, 1977), the questioning strategies employed by six Diploma in Education students who were using the ASEP unit on "Forces", were mapped. The Smith and Meux classificatory system was employed to categorize the intellectual demands made by the trainees and the findings were compared with those of an earlier study involving Queensland teachers following a conventional combined science program (Tisher, 1970). It was noted that the proportion of lower cognitive questions (26%) in the trainees' lessons was much less than what had occurred in the experienced teachers' lessons (75%). Another study (Grundy, 1986), ascertained the ways in which student teachers are implicitly guided in their thinking about and analysis of teaching by their supervising teachers. The researcher wanted to discover whether the trainees were guided to be more technical or craft oriented or more professionally oriented. It was noted that trainees were being guided to be both professionally and technically oriented. One investigation, involving path analysis, studied trainees' self-reported patterns of teaching behaviours and their associations with personal and setting-specific presses (Taylor, 1980), while another (Skamp & Power, 1981)

gathered information about trainees' perceptions of inquiry teaching and the extent to which they implemented lessons with inquiry characteristics. The findings from these last mentioned projects and the ones referred to in the preceding paragraph are summarized in Boxes 6 and 7 using phrases derived from the respective research reports.

INSERT BOX 6 ABOUT HERE

As the preceding discussion indicates objective observational studies detailing changes in trainees' teaching skills are rare. One reason may be that the task is too complex and arduous. Another may be that teacher educators are not interested in assessing whether there have been developments in teaching skills. Be that as it may, some investigators have attempted to develop schedules for assessing trainees' teaching competencies. For example, one of these (Hodgson, 1980) dealt with instructional procedures, communication skills, the trainees' "presence", pupil behaviour and lesson content. Another project (Garnett & Taggart, 1983) trialled the Georgia Teacher Performance Assessment Instruments (TPAI) with Western Australian secondary trainees to explore whether they might be applicable in Australian conditions. The TPAI consists of four instruments dealing with Teaching Plans and Materials, Classroom Procedures, Interpersonal Skills and Professional Standards. These instruments focus on a total of 16 teaching skills which have 51 associated descriptors. Fourteen third-year trainees who each taught eight 40 minute lessons were scored on the 16 teaching skills. The investigators state they obtained reasonable correlations between these scores and measures (class means) of pupil engagement, pupil achievement and pupil perceptions of their learning environment in the practice classes.

In three other projects, a working model for reflective teaching practice (Evans, 1980), the utilisation of a clinical observation system (Preston & Baker, 1985), and a collaborative planning and review

exercise (Fawns, 1984), trainees were required to reflect on their own and their supervising teachers' classroom behaviours. The first involved ten primary school personnel, twelve trainees and several lecturers who collaborated together to plan teaching sessions, gather data about this teaching and reflect on that teaching. The investigator (Evans, 1980) maintained that the project was successful, due in large measure to the effective interpersonal relations that were established and to the fact that all collaborators were committed to the program. In the second project trainees were required to use a

INSERT BOX 7 ABOUT HERE

clinical observation system to examine the teaching skills employed by their supervising teachers. They were briefed about the compilation of objectives, data records and the phases in the system (i.e., observation of a teaching skill being demonstrated by their supervising teacher, data collection, and post observation conference with the teacher about the data record). A follow up revealed that although trainees and teachers saw value in the system very few actually used it (Preston & Baker, 1985). In the final project pairs of Dip. Ed. students were given the responsibility of teaching a science topic to small groups of secondary school pupils during a six-week period. About 40 Dip. Eds. would meet together regularly an hour before they began teaching to discuss plans and to review previous activities. Each one kept a diary record and was videotaped on a set number of occasions. Post-lesson discussions also occurred during which videotapes could be reviewed. The objectives were to encourage Dip. Eds. to collaborate, to reflect self-critically on their own teaching and, together, to formulate alternate teaching strategies. Whereas the collaboration wasn't all smooth sailing, they valued the experience and developed positive perspectives about the pupils (Fawns, 1984). The findings from these three studies are summarized in Box 7. These three action research projects differ from the other investigations listed in this

section: the researchers had to consider a number, rather than a few, of the complex factors affecting the nature and outcomes of teacher education.

A variety of factors have also been considered in several projects that have examined the value of various forms of school-based or internship practice teaching. For example, in one case, the degree to which units days provided opportunities for trainees to observe and practice teaching skills was assessed (Preston, 1980). In another instance, investigators (Lloyd, Smith & Thompson, 1986) assessed the impact that a highly focussed, two hours per week, school-based process writing skills programs had on 30 second year trainees. Trainees maintained that their confidence in process writing and their insights into the school's programs were enhanced. In another evaluation of a three days per week internship practice in schools (Asquith & Ferguson, 1986), the investigators state that most trainees believed their experiences were valuable and important and that the aims of the internship were achieved.

5.2 Research on supervision and supervisors

During the last decade a number of investigators have directed their attention to the nature of the supervisory process and how its quality might be enhanced, for example through simulation activities (Green & Boyd, 1986). Consequently, several projects have been conducted to map the nature of practice teaching supervision and the characteristics of good supervisors. These projects include surveys on the responsibilities (Briggs, 1984; Danaher, Elliott & Marland, 1982), effectiveness (Eltis & Cairns, 1982) and general characteristics (Yarrow et al, 1984) of supervising teachers. Two detailed studies on the characteristics of excellent supervisors (Price & Sellars, 1985; 1986) and on the adequacy and quality of supervision (Duck & Cunningham, 1985) have been reported recently. In the first one 57 primary teachers who had been rated as excellent supervisors were interviewed

to obtain their perceptions on a range of supervisory issues such as planning and post-observation conferences, expectations and elements of successful supervision. The trainees who had been assigned to them were also consulted and from the total interview data an excellent supervisor profile was constructed on 16 dimensions, including the arrangement and conduct of effective pre- and post-lesson discussions, deliberate collection of data about teaching and being a good teaching model. The report contained no information, however, about how the trainees performed during practice teaching or about the effectiveness of the supervisors in enhancing trainees' skills or capacity to reflect self-critically on their own teaching.

In the second project (Duck & Cunningham, 1985), 1389 persons were sampled from 14 teacher training programmes in Queensland to determine what discrepancies existed between their ideals for practice supervision and what actually occurred. The sample included final year trainees, supervising teachers and lecturers. The rating data indicated that the trainees and the supervising teachers believed that the greatest discrepancies between the ideal and actuality occurred with respect to providing feedback on curriculum plans, discussing and assisting in the development of these plans and in discussing one's own lessons.

In a case study of five Torres Strait Islanders undertaking a special teacher education program (Osborne & Henderson, 1985; 1986) the investigators noted that for one trainee poor communication between trainee and supervising teacher was a major contributing factor to the problems experienced by that student teacher. Management, responding to pupils' answers, pausing and the use of facial expression were skills that were underdeveloped in all of these trainees and consequently were matters of concern.

Research workers have also directed their efforts to programs

for enhancing teachers' supervisory skills (Edmonds, 1980; Eltis & Turney, 1984; Meggit, 1980; Preston, 1986; Sellars, 1981; Swinburne, 1983). In one of these teachers were able to attend a two and one half hour seminar on clinical supervision during a practice teaching period while the student teachers took the "time-released" teachers' classes (Preston, 1986). The investigators believed that the use of student teachers to release teachers was a workable arrangement, and that the seminar was successful even though many of the teachers did not use many aspects of the clinical observation model in subsequent dealings with their trainees.

INSERT BOX 8 ABOUT HERE

Other developers report that slightly longer workshops on supervisory skills, for example for six to ten hours (Eltis & Turney, 1984; Edmonds, 1980) or, for one day (Sellars, 1981), tend to be beneficial in increasing supervisors' understandings of the role of feedback and generally assisting them in the supervisory process. When these workshops are combined with on-site personalised help for members of the training institutions (Swinburne, 1983) teachers express a great deal of satisfaction. Unfortunately there is no information about the extent to which supervisory skills have been enhanced as a consequence of the various programs. Furthermore the reports present scant details about the nature of the short courses or workshops so that it is difficult to replicate training programs, although it does appear that providing models of supervision, opportunities for role play and opportunities to practice supervisory skills are important features of training programs (Edmonds, 1980).

The findings related to the investigations on supervision and the supervisory process are summarized in Box 8 using phrases comparable to those in the various research reports.

6. Beginning teachers: provisions, concerns and attitudes

The mode of entry to teaching and how entrants were socialized into the profession received more attention in the mid-seventies than now. Induction, that phase during which beginning teachers enter the profession, receive some planned support and become, at a basic level, professionally competent and professionally at ease in their job, was investigated by a number of researchers. Generally, the investigations focussed on the first year of teaching even though some beginning teachers may require several years to become quite competent and professionally at ease. One project considered the first five years of teaching (MacArthur, 1981). The projects have dealt with formal provisions for induction (Tisher, Fyfield & Taylor, 1979), attitudinal changes (Marsh, 1976; Rentoul & Fraser, 1981), job satisfaction (Tisher & Taylor, 1981), and beginning teachers' problems and concerns (Otto Gasson & Jordan, 1979; Tisher, Fyfield & Taylor, 1979). These studies complement prior findings on what it was like to be a teacher in Australian government schools (Campbell, 1975). The data gathering techniques used in the induction/beginning teacher studies were the semantic differential, structured questionnaires and interviews. Sample sizes for the smaller, local studies ranged from 50 to 500 teachers whereas the national study (Tisher, Fyfield & Taylor, 1979) had 1,600 respondents.

The findings from the various induction-beginning teacher investigations include the following:

* There is a variety of planned provisions to induct beginning teachers, such as visits to schools prior to appointment, meetings with colleagues within the school after appointment, conferences away from the school and personal tutoring or counselling within the school.
* The majority of beginning teachers are satisfied with their teaching appointments, consider they manage most teaching tasks

adequately, and believe they are fully accepted within their school. About one in five, however, expected greater opportunities to participate in curriculum planning, to influence school philosophy and for intellectual stimulation than actually was the case.

* The most traumatic adjustment in the occupational socialization of teachers occurs during the first year of teaching, but the severity of the 'reality shock' phase is considerably modified over time. A more stable period of internalisation of sub-cultural values ensues over the next few years.
* For most teachers there is a strengthening in commitment or career orientation during the first five years of teaching, coupled with an increase in custodialism in the first year, followed by a plateau period over the next four.
* Whereas there appears to be an improvement in attitudes towards individualization among beginning teachers, there is a decline in their attitude towards techniques of inquiry teaching.
* Matters of concern to beginning teachers are their abilities to teach groups with wide ability ranges, to evaluate their own teaching, to motivate pupils, and to control classes.

There have been no studies to compare the relative effectiveness of different modes of induction of new teachers. In particular, there appear to be no projects on the effectiveness of personal tutors or counsellors, on the characteristics of these persons, or on programs designed to enhance their counselling skills. It seems to be assumed that senior experienced teachers or administrators possess the appropriate counselling skills and will be effective with beginning teachers. Certainly that assumption should be checked. Furthermore, the appropriateness of using techniques like clinical supervision during induction deserves some research attention.

7. Needs and provisions for in-service education

This section refers to a larger number of matters than the curt sub-heading implies. Australian research on in-service education is extremely diverse with respect to the methodologies used (e.g., case studies, surveys, action research, illuminative evaluation) and with respect to the issues addressed (e.g., needs, attitudes, clinical supervision, teachers as researchers,human achievement skills, school-focussed in-service education, professional development), and consequently this section attempts to give some appreciation of that diversity. Much of the relevant information occurs in institutional or regional "in-house" documents or newsletters, although there was one short-lived, but extremely useful national broadsheet, In-Service Education and Training (INSET), that contained a wealth of details about initiatives and investigations relating to them. There are several references in the ensuing text to information in that national publication. As much of the research on in-service education is scattered through so many documents it is a lengthy and arduous task to synthesize it. This section is but a beginning to that task. Other reviewers are needed to finish the job.

The diversity of the research on in-service education can be illustrated with some specific examples. The research includes investigations about the in-service needs of teachers in South Australia (see INSET 1, No.2, p.6), Western Australia(Reynolds & Clark, 1984), and Victoria (see INSET 2, No.1, p.12), preferences and attitudes of Victorian teachers toward professional development activities (Archdall, 1983), the effects of teacher development programs (Ingvarson, 1982), the nature of school-focussed in-service programs (Cuming,1983), the nature of and provisions for the continuing professional development of the nation's teachers (Coulter & Ingvarson, 1985), and evaluations of professional development programs for principals (O'Callaghan & Johnston,1981), of education centres designed

to enhance teachers' pedagogical skills (Bowd & Boylan, 1984), of human achievement skills training (Johnston, 1981), and of the Schools Commissin Development Program (Batten, 1979). In addition there are several case study accounts of projects which attempt to capitalize on teachers' desires to play a significant role in, and have greater responsibility for, their own in-service education (Ingvarson,1982). They include ones about the teacher as a reflexive classroom researcher (Beasley, 1981), and about the role of clinical supervision in enhancing skills and confidence (INSET 1, No.2, p.14; Smith & Henry, 1983). Some of the perspectives that, according to the investigators, can be derived from the preceding projects, are listed in Box 9 using phraseology comparable to that in the research reports.

INSERT BOX 9 ABOUT HERE

Two projects representative of ones that recognise the complexity of teacher education and, in particular, professional development, and span a year of more, were the action research endeavours on school controlled in-service teacher education in Victoria (Fenton, 1983) and on fostering school-focussed development programs in New South Wales (Eltis et al, 1981). The first, a collaborative effort between a Regional Office of Education and a University School of Education, sought to explain the evolutionary growth of the school-controlled in-service education project and to describe the teacher initiated programs developed in the participating schools. The report is a useful one and it highlights the facts that evolutionary development and implementation of change in teacher practice are relatively slow and very fragile. Also, the processes require a great deal of time for teachers and other collaborators to interact and to reflect. The second action research project, involving three metropolitan high schools in Sydney and a School of Education, yielded an analysis of the roles tertiary institutions may play in fostering school-focussed in-service programs and of the problems schools may have in developing them. It

was an intriguing effort incorporating illuminative evaluation throughout its operation. Whereas some teachers had expected to achieve more than was ralized, all of those involved expressed satisfaction with the project and indicated they had developed a greater appreciation of the complexities which accompany the initiation and execution of school-focussed development programs. Also, it was recognised that the key teacher in the development of school-focussed in-service education is the individual who is designated to co-ordinate the activities in the school.

Finally, it seems appropriate to draw attention to two collaborative, but labour intensive projects aimed at fostering professional development and at heightening teachers' awareness of their views about teaching and pupils. Both used the Kelly Repertory Grid technqiue to elicit teacher's constructs. One, spanning several years, contained pilot and investigatory phases (Robson, 1984) during which female primary teachers were alerted to the different views they had of their pupils, to the ways they interacted with them, and to alternative interaction patterns. In the other project, involving 15 teachers (Diamond, 1985) participants were asked to model (for ten days) a teacher whose role characteristics were somewhat different from their own self-portraits that had been obtained using the Repertory Grid. A subsequent administration of the Repertory Grid indicated that several changes had occurred, e.g., with classroom routines and helping pupils. Now these labour intensive projects appear to hold a great deal of promise for enhancing the personal and professional growth of teachers and, hopefully, others will replicate what has been done in order to reifne our understanding of the roles that the Repertory Grid technique can play in in-service education.

8. Reflections and some considerations for future research

The preceding pages - a state of the art of research on teacher education in Australia - outline the issues addressed, some of the methodologies used, and a number of findings and perspectives derived from the studies. The issues were numerous and varied; the methodologies, diverse, and certainly not limited to those of the classical natural science models; and the findings and perspectives, considerable and polymorphous. Some of the implications from these were specified, others were left to the reader to educe. Nothing was said about the extent to which the findings and implications had changed practice. There is, in fact, no clear information, in public statements or published reports, about the impact that the research has had on the practice of teacher education. If it is assumed that the extent to which action occurs (as a consequence of research) is an index of the credibility and usefulness of research, then it might be concluded that the credibility and usefulness of research on teacher education have very low ratings in Australia. However, it may be the case that the research has had a definite impact, especially in those institutions in which particular projects have been conducted. But this has been difficult to discover. It is conjectured that the research findinngs have greater relevance and impact on the contexts in which they were conducted than elsewhere. It does seem to be the case, in Australia, that teacher educators regard the findings of research conducted elsewhere interesting, but, not necessarily compelling because their "students and programs are different." If this is the case, then the findings from research may become more compelling if projects were replicated in numerous contexts, so that, in an interative manner, our knowledge about teacher education could be extended, related to a greater number of representative situations, and consequently be made more compelling for teacher educators.

The successes that have been achieved, for instance, in such projects as the working model for reflective teaching practice (Evans, 1980), and the reflective, collaborative, school-based mode for Dip. Eds (Fawns, 1984), could be emulated to ascertain what successes can be obtained in other training programs. Likewise, the disappointments with respect to the results of several endeavours with clinical observation and clinical supervision (Preston, 1986) constitute a challenge to ascertain whether these models can be implemented in other contexts using different modes to present the models. Questions that might be asked include: "is a longer training program more effective?" "Is the effectiveness of clinical supervision workshops enhanced when investigations first take account of, and work from the perspectives and needs of supervising teachers before introducing them to the clinical model, (e.g., along the lines of partnership collaboration advocated by Ruddock & Sigsworth (1985))?" Of course, any attempts to replicate the various clinical observation and supervision action research projects must heed Elliott's (1980) advice to maintain a high critical perspective on all that is done, and not stop short of classroom, school-bound or college-bound interpretive or phenomenological descriptions.

Replications of projects will be important and valuable if they, in an interative manner,enhance our understanding of teacher education. But, a caveat is in order. Our understanding cannot grow primarily through the massive accumulation of findings. Theoretical underpinnings are also required. Unfortunately a considerable proportion of research on teacher education, in Australia and elsewhere, takes place in a theoretical vacuum and, at the same time, neglects the influences and interactions from other components of teacher education. The research is not associated with any second order theory about how to educate people to be effective teachers. It does seem necessary, therefore,

to link it to a theoretical framework in order to create an inter-related knowledge network.

The various projects reviewed address important issues, but often the circumstances surrounding the investigations, e.g., small number of research personnel, time constraints, scheduling, the labour-intensive nature of projects, administrative or regulatory constraints, and lack of adequate financial support; mean that the focus of a study has to be relatively narrow, the interactions with other program components must be neglected, and motives, intentions and beliefs of the persons involved in the process have to be ignored. This last mentioned omission can invoke a criticism that the research appears to assume that human behaviour (teaching skills) has characteristics which exist independent of and external to the intentions and motives of the people involved and, as a consequence, distort the issues being studied. Future projects might avoid this criticism if they took more account of the intentions and motives of those involved in teacher education. This implies that teacher educators, as well as trainees and supervising teachers, should be among the foci for study. McIntyre (1980) advocates this. He stresses the important role that ideologies, and how persons construe teaching, and teacher education, when they are thinking about it for themselves, can play in all facets of teacher education, and how these can filter the effect of a program. He suggests that research on teacher educators could contribute to quality in teacher education by making them more aware of their concerns, assumptions and ideologies, and of how these relate to their positions within distinctive types of organizations.

In addition to the preceding suggestions for further research others may be derived from Katz's (1981) matrix for research on teacher education. For example, one of the cells of her matrix is reserved for information about the interactions between the characteristics of trainees and others with whom they are associated. This suggests the

following research question: "what interactions occur between trainees and supervisors when there are mismatches between their respective perceptions of effective teaching?" - and, there are many more that can be derived.

There are other tasks for researchers. One is to attempt to study the process of teacher education as it unfolds over time for those involved in it. Trainees as well as teacher educators could be the foci for study in such a long term project. But this research would require a team of investigators working on the task for four or more years - preferably longer. That identifies another need, for teams or centres to commit themselves to the long term task of research on teacher education which would not only include the kinds of issues discussed above but those affecting fiscal and policy matters as discussed by Lanier & Little (1986). In an era characterized by reductions in university and college staff, reduced student intakes, lower levels of funding, power plays to maintain courses and effective full-time student numbers, studies are also required on the competing agenda in organizations and their effect on teacher education.

Australian research on teacher education is not in the doldrums, it has been diverse and has produced a variety of findings,and the optimists among us believe our glass of knowledge is "half full" with other challenging things to be done. The challenging tasks referred to above will require fortitude, tact and ingenuity and when complete will add to our knowledge, and enliven our senses.

BOX 1

Some characteristics of trainee teachers : I

1. The value systems of female trainees are extremely diverse

2. Contrary to Kohlberg's theory of moral development, the moral reasoning of trainee teachers is not one stage higher than the highest stages of pupils.

3. Formal reasoning patterns are not used by large numbers of pre-service primary teachers. They do not possess reasoning patterns which activity centred science curricula seek to develop.

4. Attitudes of C.A.E. students towards children with special needs are more favourable after working through a special education unit.

5. The attitude of Dip. Eds. toward teaching is less favourable at the end than at the beginning of their program.

6. Dip. Eds. do not appear to become more "progressive" during their training.

7. Trainees' perceptions about pupils as learners are strongly influenced by characteristics of pupils' voices (e.g., broad Australian accent): voice has a significant influence on judgments about intelligence and likely success.

BOX 2

Some characteristics of trainee teachers: II

1. Classroom behavour patterns of 4th year trainees, prior to skill training, include use of clear questions, use of a high proportion (2:1) of higher versus lower cognitive questions, variations in gesture but not voice and brief (less than 5 seconds) pauses between questions and responses.

2. Survival is 'perceived' to be an important aspect of a teacher's role.

3. A pessimistic view of pupils is held by Dip.Eds. at the end of their course.

4. Administrators are the kinds of teachers that Dip. Eds. do not want to become.

5. Trainees with high positive self-perceptions have a strong commitment to teaching as a career.

6. About 40 percent of final year trainees have a strong commitment to teaching. About 50 percent of the females have a weak commitment, whereas 63 percent of the males have a strong one.

7. Male trainees are more custodial than females : science trainees are more custodial than their humanities colleagues.

8. A large number of pre-service teachers do not use formal reasoning patterns and do not possess the patterns which activity-centred science curricula seek to develop.

9. Primary trainees who score low on reasoning ability tend to be those who have studied Biological Science at Year 12.

BOX 3

The nature and impact of pre-service programs : I

1. Programs preparing primary teachers aim to foster personal development, general education, academic education, specialist professional knowledge and professional skills.

2. Professional knowledge and skills receive a high emphasis in Primary programs whereas personal development does not.

3. School-based programs provide more peer support and opportunities for discussion than other courses.

4. Trainees are satisfied with schoolbased programs and regard them as meeting their teaching needs.

5. Wide differences occur between institutions in the ways they teach trainees to plan : improvements are required with respect to initial instruction and the examples used.

6. Programs have a positive effect in modifying trainees' assessments of their knowledge of curriculum, teaching skills and attitude.

7. Trainees believe programs could do more to develop professional attitudes, and classroom and evaluation skills.

8. The preferred training (or program) modes by trainees are micro-teaching, simulations and practice teaching.

9. Beginning teachers believe the times for method courses and school experience should be increased. Also, the quality of methods courses should be improved.

BOX 4

The nature and impact of pre-service programs : II

1. Abilities to control classes, to translate a curriculum plan into action and to cater for individual strengths and weaknesses are deemed very important by beginning teachers but these features receive less than moderate emphasis in programs.

2. Whereas some trainees regard psychology, philosophy and sociology of education as important studies in the foundations of education a significant proportion of beginning teachers believe these components should decrease in quantity and improve in quality.

3. A greater understanding of, and a liking for sciences are fostered in primary trainees when an Open University type course with home experiments, projects, and tutorials is incorporated into their teacher education program.

4. The four most preferred strategies for teaching primary science by trainees at the end of their first year are, (a) allowing individuals to experiment, (b) providing first hand experiences, (c) allowing pupils to devise own experiments and (d) providing practice in process skills.

5. Whereas a majority of Dip. Eds. gain confidence with respect to teaching, and especially with respect to their abilities in test construction, about one in every two feel confident about organising and supervising field trips and preparing inquiry oriented instructional sequences.

6. More than two thirds of primary trainees, at the end of their third year, believe teachers should admit when they are wrong, a good science background is not essential in order to teach science, and the same work should not be done by all pupils.

7. About half of primary trainees at the end of the third year believe a syllabus is necessary in primary science.

8. Primary trainees develop more favourable attitudes towards science teaching during the second year of their pre-service education.

BOX 5

Skill (and other) components in pre-service education

1. The core of a successful micro-teaching experience contains the following: presentation of theory about micro-teaching, modelling, practice and feedback with guidelines for self-analysis.

2. C.A.E. students are satisfied with a micro-teaching approach and believe they gain in confidence and inter-personal relations.

3. When micro-teaching and interaction analysis are integrated students change their behaviour with respect to their proportion of complex incidents, number of extending responses, and number of higher cognitive behaviours, but not with respect to their number of redirecting responses.

4. A competency based teacher education program is more effective than a conventional one in helping students acquire explanatory skills. It helps with verbal fluency, planning a learning hierarchy, and planning for terminal review.

5. Trainees believe psychodrama should be a component of a teacher education program: they value the sense of trust, beloning, and self-worth the group experience gives.

6. Strategy analysis procedures consisting of model presentation, peer teaching, analysis and assessment of correspondence to the model, and feedback on performance, are effective in improving the quality of trainees' teaching skills for activity-oriented science.

7. Strategy analysis procedures are more effective than merely mastering a teaching model for changing teacher behaviour and for developing process skills.

8. Student teachers ask more questions of their pupils in demonstration-discussion phases of an ASEP unit than during group activity phases. About 22 percent of the demands on pupils are higher-cognitive and 50 percent management ones.

9. Primary trainees' choice of materials for science lessons is affected by a variety of factors: there is no simple linear relation between that and their background in science.

10. When primary trainees' knowledge of science is extended they become more confident in teaching science, and they extend pupils' ideas during verbal interaction.

Box 6

The Practicum

Characteristics and Skills : 1

1. Trainees' levels of anxiety decline over a practice period but their custodial attitudes increase.

2. School experience is associated with positive changes in primary trainees' self-assessments of their knowledge of curriculum content, teaching competence and attitude to teaching.

3. School experience does little to enhance the professional self-image of some Dip. Ed. students: there can be declines in the dimensions of orderliness, happiness and warmth.

4. Trainees who believe they gained a great deal from teaching practice tend to be those who were closely supervised, received a good response from children and had good school facilities.

5. By and large primary trainees believe they experience desirable things in the practicum. However, they perceive inadequacies with respect to regular communication and interaction with school principals and with opportunities to observe effective teachers in different classrooms.

6. Highly ranked self-perceived needs of Dip. Ed. students before and after a practice teaching period are the abilities to cope in the classroom, gain practical teaching skills, develop relevant understandings and explore one's own capabilities.

7. Primary trainees' attitudes towards hands on experiences for pupils declines during a practice teaching period. Males become more positive in their feelings about their own teaching of science whereas females become more negative.

8. Only two out of five pre-service primary teachers alter their initial broad perceptions of inquiry teaching with more specific detail after instruction in curriculum and practice teaching. By and large trainees lack clear perceptions to adequately implement inquiry teaching.

Box 7

The Practicum
Characteristics and Skills : 2

1. The image of the teacher promoted by supervisors is that of an active decision maker. That is, trainees are guided to be both professionally and technically, or craft, oriented.

2. A proportion of trainees believe college studies should be of more help to them in the practicum than they are. They could do more to develop classroom and evaluation skills, and professional attitudes.

3. Student teachers ask more questions of their pupils in demonstration-discussion phases of an ASEP Unit than during group activity phases. About 22 percent of the demands on pupils are higher-cognitive and 50 percent management ones.

4. Low ability primary trainees (i.e. those receiving low teaching marks) appear (a) to receive inconsistent assistance with lesson planning and (b) to be given less freedom to use teaching methods and approaches which differ from those of the supervising teachers.

5. About 75 percent of supervisory teachers and their trainees say there is a need for a clinical observation system during practice teaching, about 50 percent express an interest in it but very few (of the order of 1 in 5) make any use of it.

6. A deliberate six-week program aimed to help trainees reflect on their own teaching and be self-critical and which uses diary records, videotapes and discussions, is successful in developing trainees' perspectives about pupils, fluctuating experiences in teaching and difficulties associated with collegial collaboration.

7. Two factors associated with the successful implementation of a model for reflective teaching practice are commitment to the model (or program) and effective interpersonal relations among the collaborating teachers, trainees and lecturers.

Box 8

Supervision and the Supervisory Process

1. Trainees and supervising teachers believe that there are discrepancies between ideal and actual supervision especially with respect to feedback on curriculum plans, discussion and development of curriculum plans and discussion of one's own lessons.

2. Teachers and trainees believe that effective supervisors are well organised, are good teaching models, assist trainees to gain rapport with classes, collect data about trainees' teaching and arrange and conduct effective pre- and post-lesson discussions.

3. Fourth year B.Eds believe professional dialogue and concern for improved teaching are essential features of good supervision.

4. Supervisory personnel from colleges should possess a number of qualities according to teachers, school administrators, college staff and trainees. The highly desirable ones are fairness, approachability and consistency while other desirable ones are the abilities to be considerate, friendly and tactful.

5. Comparisons between university and school supervisors indicate that in some instances master teachers are perceived to be more effective with respect to their instructor, observer and counsellor roles than the tertiary supervisors. In other instances the reverse is true.

6. Problems with respect to practice supervision are generally related to failures in communication.

7. Supervisory teachers express concerns about insufficient time to talk with trainees, anxiety about writing reports, and lack of support from college staff.

8. Lecturers believe that they are not welcome in schools, teachers rarely read practicum handouts, and teachers do not know how best to help trainees.

9. Supervisory teachers react positively to supervisor training workshops, and to assistance with the supervisory process.

10. Short (3 by 2 hr.) workshops can develop teachers' awareness and understanding of the role played by supervisory feedback to trainees. Modeling, role playing and practice of skills are important components in workshop programs.

11. On site supervisory training programmes which include personalised help are favoured by teachers.

BOX 9

In-service education and professional development

1. Teachers have a range of needs for in-service education which vary significantly depending on experience and school location. Highly rated needs are skills in curriculum planning and development, communication and interpersonal relations, general teaching methods, and helping the less able and the gifted.

2. Action research associated with school-based in-service education indicates that in-service can work and is a powerful tool for the professional development of teachers.

3. Teachers can be helped to become reflexive classroom researchers and they respond positively to that difficult challenge.

4. Clinical supervision is a powerful means of converting ideas into action. It provides support and encouragement to teachers, increases their understanding of classroom interactions, enhances their skills and confidence and enables them to identify their strengths and weaknesses.

5. Teachers regard in-service as useful; they feel strongly about the role they should play in it; some believe it enhances their professional development; and most value the contact that occurs with other teachers.

6. The average length of in-service programs appears to have increased over the years, and the number of in-service courses a teacher attends has declined.

7. A majority of teachers are annually involved in a school-focussed in-service education activity. A majority of these activities (54%) focus on organizational development, some on curriculum development (30%) and others (16%) on staff development.

8. Evolutionary development and implementation of change in teacher practice is relatively slow and fragile and requires time for interaction and reflection.

9. Human achievement skills training courses are effective in producing behavioural changes in principals and deputies in relation to attending and responding to others and in observing non-verbal behaviour. They are less effective in developing the skills to help others understand and come to grips with their measure of responsibility.

10. Although some teachers expect to achieve more in school-focussed development programs most are satisfied with them and have a better understanding of the complexities associated with initiating and executing the programs.

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